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ACTIVATION OF VOCATIONAL AND PERSONAL DEVELOPMENT

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ABSTRACT

On the basis of Guilford's model of intellect and of the work of others in the field of cognitive psychology, an attempt is made here to identify the abilities and attitudes which are likely to make possible the performance of the vocational developmental tasks. From this conception, a new approach to guidance is suggested, in which the student is helped, through a number of strategies, to go through the sequence of his vocational developmental tasks.

NOTE

In this communication is presented an approach to guidance which has been developed by Denis Pelletier, Gilles Noiseux, and Charles Bujold (Department of Counseling and Guidance, School of Education, Laval University, Quebec City). For a more extensive presentation of the approach, see: Développement vocationnel et croissance personnelle: Approche opératoire (Pelletier, Denis, Noiseux, Gilles, et Bujold, Charles). Montréal: McGraw-Hill, 1974.

It has been almost a quarter of a century since Ginzberg criticized guidance workers for not basing their interventions upon a solid theoritical foundation. For more than four decades, Parson's successors had adhered closely to his scheme suggesting that vocational choice is the result of the individual's comparison of 2 sets of facts: those of a personal nature, relating to himself, and those relating to occupations. At the same time, they had drawn from other related fields such as statistics, psychometry, counseling and vocational information, in order to facilitate vocational problem solving for young people.

In spite of its imperfections and its insufficiencies, the approach to a general theory elaborated by Ginzberg and his collegues stimulated considerable activity, which was mainly directed towards identifying the variables affecting vocational behavior and its correlates, illustrating the sequential nature of this behavior, conceptualizing its underlying mecanisms, understanding its dynamics, and lastly, proposing types of interventions likely to facilitate its development.

Each of the theories, models, and conceptual frameworks which have been proposed suggests useful elements of explanation and has provided certain elements of strategic value. However, it is worth noting that while many concepts, in science, come to fall into disuse after a short while, the developmental approach to the problem of vocational behavior has withstood the test of time, since it continues to stimulate interest among practicioners and researchers. This fact is in itself noteworthy; however, this approach also appears to be the one which provides the most

complete and integrated view of vocational behavior, which clears the path for more research that is likely to further enlighten us on the way the individual interacts with his milieu, and which suggests to guidance counselors some methods which are distinctly different from the more traditional approaches.

THE FUNCTIONAL APPROACH

It appears possible to us however, to go yet even further along this vein. While we do not want to deny the value of the interventions which have been proposed to date towards facilitating vocational development, in our opinion, it is absolutely necessary that we examine this phenomenon from a functional point of view, that is, we should consider the operations inherent in each of the diverse developmental tasks, and consequently, the abilities and cognitive attitudes which make these operations possible.

If we consider briefly the different ways in which we can analyse vocational behavior, we see that it can be viewed in a purely descriptive way, in which we simply define the tasks that mark this behavior. If we probe a little deeper in our analysis, we are then able to identify the conditions which make the accomplishment of these tasks possible. On another level, we can examine the dynamics of vocational behavior, while we attempt to understand and predict this behavior by studying the way the individual's personality is organized, and by observing the interaction of personal and situational factors which determine this behavior. However, in our opinion, the explanation proposed by the functional approch is more fundamental, since it proposes an analysis of an individual's behavior in relation to the way he lives

his experiences, the way in which his experiences are cognitively processed, the significance he draws from them and the manner in which he integrates them.

We believe that this approach permits us to advance significantly in our study of vocational development, and in our approach to guidance. The developmental theorists have made a worthy contribution to our knowledge, since to varying degrees, they have clarified our thinking concerning the periods and stages that an individual passes through during his vocational development, the tasks which he must perform, the relationship between his career development and personal development, the mecanisms involved not only in his decision-making process, but also in his adjustment to school and work during his interaction with his milieu. However, in spite of its qualities, the developmental approach, as such, does not provide us with an interpretation of these phenomena in functional terms. The statements made by Havighurst, Ginzberg or Super concerning the developmental tasks fail to indicate just which intellectual abilities and cognitive attitudes are involved in the operations necessary for the accomplishment of these tasks. Hershenson's system, which aims at situating the phases of vocational development in relation to personality development, is highly descriptive. Super's extensive analysis of the role of self-concept in vocational development, and Tiedeman's and O'Hara's concept of choice and adjustment, both take into account the cognitive and affective elements involved in the phenomena they study. But their statements do not account for the processes underlying these phenomena. On the practical level then, a counselor who applies Super's theory is able to help an adolescent become aware of what

he must do to perform his developmental tasks, and he can sensitize him with regard to the attitudes necessary to facilitate their accomplishment. The theory, however, does not help him to provide the individual with the psychological instrumentation for carrying out his developmental tasks, it does not indicate to him how he can mobilise the adolescent's cognitive and affective resources upon which depends the realization fo these tasks.

The functional approach, when applied to the study of vocational development (as well as social, personal, and family development), enables us to study how a person functions by examining the inner processes of a cognitive and attitudinal nature involved in his functioning. It enables us to describe with greater adequacy, in functional terms, the nature and complexity of vocational phenomena, and in addition, it can serve as a guide in elaborating interventions likely to influence them.

With this view of vocational development, it is now possible to conceive a more varied and adequate methodology for use by guidance counselors. This methodology consists of activities, experiences, and learning situations which are appropriate, we think, not only to guide an individual's vocational development, but also to mobilize within him the cognitive and emotional resources necessary for the accomplishment of developmental tasks. Briefly then, this method consists in providing the individual with a psychological instrumentation by means of which he could learn how to learn.

In this paper, I will attempt, first, to illustrate briefly, within the framework of the functional approach, the possible rapport between the developmental tasks and the abilities and attitudes necessary for their realization. I will then discuss the basic principles of the model of activation that we are proposing, and finally, an illustration of its methods of application will be presented.

DEVELOPMENTAL TASKS: A FUNCTIONAL VIEW.

From the developmental perspective where we are presently situated, educational and career choices can be seen as long term problems, whose solutions involve a certain number of tasks. Logically, a given task which has been sucessfully performed in turn facilitates the accomplishment of a following task, so that a person is able to pass through the different phases of life without too much difficulty. In order to conceptualize, within the perspective of the functional approach, the relationships that exist between developmental tasks, on the one hand, and the abilities and attitudes likely to influence them, on the other, we began to consider certain tasks, in particular exploration, crystallization, specification and implementation in relation to Guilford's model of the intellect, and we attempted both an inductive and deductive analysis of these relationships. With regard to the functional analysis of developmental tasks, let us first consider, if you will, Guilford's theory of the intellect. This will be followed by a short description of the developmental tasks, and an illustration of how certain intellectual factors and cognitive attitudes which have been identified by Guilford (as well as by other researchers) could possibly influence the accomplishment of these tasks. I will then illustrate how we can state these tasks

in functional terms.

Guilford and his associates have elaborated and tested what they call a morphological model, in which abilities are classified in three dif ferent ways. The categories of one way intersect with those of the other ways of classification. One way of classification is in terms of operations, and it involves five categories, which Guilford calls cognition, memory, divergent production, or production of new information from the one which is already possessed; convergent production, which means the production of logic-tight conclusions; and finally evaluation, or the operation of judging the goodness of what is known or produced.

The second way of classification is in terms of contents, or areas of information within which the operations are performed. Four categories of content were identified: figural, which pertains to information in concrete form, as perceived or as recalled in the form of images; symbolic, which involves signs, code elements such as numbers or letters; semantic, pertaining to information in the form of conceptions or mental constructs; and behavioral, pertaining to information involved in human interactions. Those content categories refer, as it can be seen, to basic, substantive kinds of information.

The third way of classification, which is in terms of products, refers to formal kinds of information. In the model, six categories of information are listed, ranging from the simplest to the most complex: Units, classes, relations, systems, transformations, and implications.

By putting together the three classifications mentioned above in one cross-classification, we obtain a cubic model. Since there are 5 categories of operations, 4 of contents, and 6 of products, there is a total of 120 possible combinations and so, in theory, we have 120 unique abilities. The ability represented by each little cube within the model is unique since it represents one type of operation, which exerts itself on a certain type of content, in order to give a particular kind of product.

In spite of the fact that the structure and functioning of the human intellect is a question that remains largely open to research, it is remarkable that Guilford and his associates, in a series of studies, have since demonstrated the existence of 98 out of 120 theoretically identified abilities. Considering this model, therefore, one is led to ask not whether or not a person is intellignet, but rather, for what kind of task or activity he demonstrates certain abilities. In other words, we are quite far removed from a unitary conception of intelligence, which was in favor in the past.

What relationships exist between developmental tasks, on the one hand, and cognitive abilities and attitudes, on the other? Let us take, for example, the task of exploration. The one who explores has to observe, to make trials; he must be capable of judging, of formulating inferences and interpreting information; he is also led to experiment, investigate, and formulate hypotheses concerning the object and the methods of investigation. Novelty, complexity, incongruity (perhaps by virtue of the divergence which they introduce into the perceptual field) are variables that are likely to provoke and stimulate exploration, which, in turn, provides

the individual with the means for satisfying his need for variety and stimulation.

Without denying the fact that there are many intellectual abilities, and a certain number of attitudes that play a role in the exploratory process, it seems to us that the active search for novelty and change, as well as observation and curiosity, the process of trial and error, the elaboration of hypotheses, and risk-taking, are all components of exploration which also call upon a person's capacity for creative thinking. Consequently, it is interesting to ask whether the abilities related to creative thinking which gave been isolated by Guilford, as well as a certain number of personal components, do not play a role of prime importance in this task.

Guilford makes a distinction between creative thinking, and what we often call logical thinking. Whereas convergent production (or logical thinking) concerns what is logically necessary, divergent production (or creative thinking) concerns what is logically possible. The person who is in the exploration phase, by definition, il not obliged to make final decisions. Rather, in order to make a valid exploration, he should be able to see all the possible aspects of a situation, or all the elements of a problem. In relation to this question, Guilford and his colleagues have tested the hypotheses that creative thinking enables the individual to go beyong the superficial aspects of the things he observes, and that it permits him to penetrate more deeply the meaning of his experiences. They determined the existence of an intellectual factor which fulfils this function, and which was identified as cognition of semantic transformations. In their description of this factor, they point out that a person who possesses this form of "penetrating" thinking is capable of perceiving a greater number of characteristics pertinent to a given situation, and is so capable

because he can perceive all the transformations that can possibly occur. The importance of this ability for the individual who is involved in vocational exploration is obvious: the more aspects of a situation he can grasp, the more he can increase his occupational knowledge through career conferences, industrial visits, or meetings with workers.

Other components of creative thinking are likely to play an equally important role in the exploration process. Sensitivity to problems, which Guilford defines as the ability to perceive the implications arising from a given information, appears to be very closely related to exploratory behavior, as are 2 other categories of abilities, fluidity and flexibility. Fluidity permits an individual, so to speak, to enrich the information he acquires with the information he already possesses. Flexibility, on the other hand, refers to the adaptability a person shows in the way he classifies the information he has acquired (about himself or the world of work)and by his versatility in transposing the information that he possesses. One may assume again that a fruitful exploration depends upon a person's aptitude to avoid classifying his information into rigid classes and fixed organizations.

While the research conducted by Guilford ans his fellow-workers has resulted in the identification of several abilities pertinent to creative thinking, other studies concerning creativity have also resulted in the discovery of a certain number of cognitive components and personal variables which might play a role in exploration, such as autonomy, tolerance of ambiguity, a willingness to take risks, and originality.

Therefore, the functional conception of vocational development suggests that exploration depends upon the intellectual abilities and cognitive attitudes characteristic of creative thinking. It also suggests that the other developmental tasks are dependant upon other modes of thinking. I will limit myself here to mentioning each of these tasks and the types of thinking which are hypothetically related to each one.

As a person accumulates numerous experiences through his exploration, he almost certainly experiences a certain feeling of confusion, which he translates into a need to clarify his situation, to establish order within himself, that is, among the various pieces of information he possesses concerning himself. He also experiences a need to organize his perceptions in relation to professional roles, to the world of work and to the educational structure. If we express this need in terms of a task, then we refer to it as crystallization, during which the adolescent must eliminate certain possibilities, thereby reducing his field of preferences, in order to arrive at a general preference which embraces a certain number of related activities.

If we want to identify, using Guilford's terminology, the categories of intellectual operations which are particularly important during crystallization, it appears that cognition and convergent production play a fundamental role. In order to be able to crystallize his preference, a person must be aware of the elements involved in a problem, and he must be able to order these elements and to classify them according to certain logical principles.

He must decide that certain fields of activity correspond to his aptitudes, interests and values, while others do not. He must have the capacity for discerning characteristies common to several occupations, and must be able to identify which of his own attributes correspond to the requirements of several occupations. In general, he must be able to think in terms of logically organized systems. All these operations are likely to call upon diverse cognition and logical thinking abilities, upon what we could call, in short, conceptual thinking.

After crystallization has been carried out, Super suggests that normally, the adolescent specifies his preferences, that is, he converts a general or provisional vocational preference into a specific one. Specification could be viewed as that point where a person's values intersect with the possibilities provided by his environment. It may be that the adolescent has a rather extensivie list of requirements, in which case, one of his immediate difficulties would be to determine his priorities with regards to his expectations for the future.

Therefore, he must organise his hierarchy of values, so that the most essential and important criteria serve as guidelines in his comparison of diverse projects. He must coordinate what is desirable with what is probable, a task which requires a tolerance of complexity and a capacity to take into account several variables at a time.

Referring back to Guilford's model, we find that, like for other tasks, there are many diverse abilities which are involved in the specification task. However, a particular group of intellectual abilities are likely to be very important in specification: it is the group that Guilford calls evaluation abilities or, in other words, evaluative thinking, since he defines this type of thinking as the process by which one compares items of information, in terms of known specifications, one the basis of logical criteria, such as identity and consistance.

And finally, the last task to be considered is implementation, which Super in particular has defined. After an adolescent has explored all his possibilities, after he has reduced the number of possible choices, and later specified one professional choice in particular, he must commit himself by enrolling in a program of studies, or by finding himself a job in his chosen occupation.

The individual who is about to implement his preference manifests a certain attachment to his project. He expresses this attachment by a preoccupation concerning the materialization of this project: what steps should he take in order to be admitted to a certain training school? How can he improve his work in the disciplines related to his choice? How can he protect his decision? What difficulties must he anticipate? In general then, the individual becomes more involved and more motivated to commit himself concretily and efficiently.

This indicates, it seems to us, that implementation requires such abilities as anticipation, planning and elaboration, which could be called, according to Guilford, implicative thinking.

The functional conception of vocational development therefore suggests that relationships exist between the developmental tasks, on the one hand, and intellectual abilities and cognitive attitudes on the other. In speaking particularly of the rapport between tasks and abilities, it leads us to link theoretically exploration with creative thinking, crystallization with categorical-conceptual thinking, specification with evaluative thinking, and implementation with implicative thinking.

If this is the case, then cognitive psychology could contribute a great deal to the conceptualization of vocational behavior, and to the elaboration of approaches liable to facilitate this process. In fact, the various type of thinking we refer to are actually groupings of various factors found in Guilford's model of the intellect. If we transpose this cubic model into a table, and if we focus our attention on the semantic and behavioral contents, then we find that creative thinking includes the row containing divergent production and the column of transformations; categorical-conceptual thinking includes mainly the class and relation columns, evaluation thinking covers the row marked evaluation and the column marked systems, and implicative thinking refers for the most part to the implications column.

On the basis of this analysis, we can then restate the developmental tasks in functional terms, that is, describe or transpose them in a language which reflects the internal processes which underlie them.

For example, here is how we can transpose exploration in the functional language: In the model we propose, exploration means: discovering

> that there exists, within the immediate surroundings and in society in general, problems which need to be solved and tasks which must be accomplished. This refers to sensitivity to problems, an ability which, it seems to us, is essential for a valid exploration.

Exploration also means: accumulating a wealth of information on one's environment and one's self, referring to an ability known as "fluidity".

Exploring is also: having at one's disposal a rich repository of information, which implies the exercice of the ability called flexibility.

Exploring consists in: obtaining informations which are unusual and not readily accessible in one's immediate socio-cultural milieu. This formulation takes into account the components of creative thinking called originality and penetration, as well as the attitude called autonomy.

Exploring also means: being able to recognize the fact that not only is it necessary to orient oneself, but that this is of great importance. This sub-task implies again sensitivity to problems.

We could also say that exploring is: being able to accept that one's orientation is a complex matter, for which there is not necessarily a unique and definite answer. This attitude, which seems

to us to be of the utmost importance in relation to one's exploration of occupations, demands that the individual be able to tolerate ambiguity.

And finally, exploring means: trying on professional roles in one's imagination, which requires, we think, the willingness to take risks.

These kinds of statements, or definitions, can also be proposed concerning the tasks of cristallization, specification, and implementation. Each task, in other words, can be devided into sub-tasks, and these sub-tasks can thenbe conceptually related to the abilities and attitudes which seem important for their achievement. Six statements have been formulated for the task of cristallization and specification, and five have been proposed for the task of implementation. Time limitations predude a discussion of each of these formulations, and will limit myself to giving but one illustration for each of the tasks. For instance, organizing one's knowledge of the world of work in relation to the components of one's identity forms a part of the task which consists in cristallizing a vocational choice. It requires a positive attitude towards this enterprise, and it also requires convergent thinking, as well as evaluation and elaboration abilities. Ordering one's needs and values according to their importance is a component of specification, and it is likely to call upon evaluation abilities and a reflexive attitude. Anticipating the difficulties which could arise is a component of the task of implementation; it depends upon the exercice of implicative thinking, and also upon a willingness to assume one's responsibilities.

APPLICATIONS

With regard to the possible applications of this approach, we are brought to formulate the following question: Is it possible to facilitate vocational development through stimulation of the development and exercise of intellectual abilities and cognitive attitudes? It has been suggested by Havighurst and Super that the successful performance of one task is a prerequisite to the performance of the following task. If such is the case, insufficient exploration could result in pseudo-cristallization, which could itself make difficult or impossible the specification of a vocational preference. However, if individuals can be trained to perform adequately the sequence of vocational developmental tasks, many people whose vocational development is characterized by a series of trials and errors could be helped to improve their strategies, and of course, prevention of such problems could be possible in many cases. In other words, it would be possible to promote vocational maturity by mobilizing in the individual the abilities and attitudes which make possible the realization of the vocational developmental tasks.

The implication which can be drawn from his analysis is that a number of strategies could be used in order to facilitate for the individual the accomplishment of the diverse vocational developmental tasks, and to provide him with opportunities for growth experiences. The strategies could be useful to counselors in their attempts to help individuals make a full utilization of the abilities and cognitive attitudes which seem particularly important for the satisfactory performance of given tasks, or to help them develop the abilities and attitudes which are necessary for the successful performance of such tasks.

Before talking about strategies, however, two questions need to be dealt with: first, is it possible to influence the development and exercise of cognitive processes (that is, intellectual abilities and cognitive attitudes)? If so, what is the model of intervention that would underlie the counselor's action?

THE TRAINING OF COGNITIVE PROCESSES

A body of theory and research has been concerned with the problem of the training of cognitive processes. Sixteen years ago, Bartlett was considering thinking abilities as processes which could be trained. Since then, an impressive number of books and articles have reported the results of studies indicating that the processes of creative thinking can be improved by proper training, and that such improvements persist over time. Work pursued in the field of cognitive psychology has also resulted in the invention or use of numerous strategies (like brainstorming, synectics) intended to foster creative abilities, and also conceptual and evaluative abilities as well. Research studies also indicate that cognitive attitudes like preference for complexity and tolerance of ambiguity can be developed by training.

This being the case, it thus appears possible to activate vocational development: Exploration would be facilitated by procedures involving divergence and analogy, cristallization by procedures conducive to the use of convergent thinking abilities, specification by instructions, situations and strategies devised to stimulate activities of evaluation and comparison, and finally, implementation could be facilitated by activities in which the individual would have to anticipate and plan. At the same time, some procedures, strategies or activities could be used to stimulate the attitudes likely to faci-

litate the exercice of the intellectual processes just mentioned. Vocational maturity, which is the ultimate goal of all these activities, thus implies much more than merely acquiring knowledge. It is conditioned by the individual's initiative and participation, by his intellectual and emotional involvement.

It is with these considerations in mind that we have elaborated a model of activation. In this model, three conditions or principles are seen as essential for the successful accomplishment of the individual's vocational developmental tasks. Acording to this model, development implies: something which is experienced; something which is cognitivelyprocessed; and something which is logically and psychologically integrated. In other words, each learning situation involves an experiential, a cognitive, and an integrative dimension. Each of these principles will now be briefly commented upon.

DEVELOPMENT IMPLIES EXPERIENCING

There is a chinese provert which says: I hear, and I forger; I see, and I remember; I do, and I understand. Stated differently, we could say that it is not by reading about happiness that one becomes happy. It is not by knowing what development implies that one starts growing. Whatever their background, most, if not all, counselors agree with Gendlin on the point that a client starts making progress when his expression emerges from his impression, when the words he uses symbolize what he really feels, when the concepts he has developed do not remain merely intellectual matter, but give direction to his actions.

The activation of development implies, consequently, that the

individual must go through experiences. The more a situation becomes for the individual an opportunity to involve himself completely, with all its cognitive, sensory, and emotional ressources, the more the situation can be seen as experiential. If we refer to contents in Guilford's terminology, we could say that the contents he has identified can be considered as offering different levels of experiencing. Symbolic and semantic contents offer the lowest degree. Figural material is on an intermediate level. Behavioral content, however, provides the highest degree of experiencing. For example, reading a play is a learning experience. Attending the same play provides a more experiential knowledge of it. But acting in the play, with all the feelings and behaviors that such an experience involves, is still a more experiential situation. Words, figures, mental imagery, feelings, and behavior can be seen as representing different levels of intensity in experiencing. And in somewhat more operational terms, we could say that a learning situation is fully experiential to the extent that it involves contents of all kinds, which provide imputs that are convergent and in relation to the object of learning.

DEVELOPMENT IMPLIES A COGNITIVE PROCESSING OF EXPERIENCES

Readers may have various purposes and various "reading styles". One may read in order to understand an author's thought. If asked, he will be able to give a true account of his reading. A second one may read with the hope to stimulate his mind, and then, to be able to elaborate his own synthesis of a subject matter. He will process the content of what he has read in relation to the problem which is of interest to him. A third one may read from a critical viewpoint: He will be looking for the contradictions, weak points and ambiguities present in the text. Still another one will be interested in

drawing theoretical implications and practical applications from the principles discussed in the written material.

This points to the fact that in the course of a simple activity like reading, many intellectual behaviors can be involved. These cognitive processes contribute to the individual's adjustement. He uses them in order to reach his objectives, to solve the problems that be meets.

A large body of literature is concerned with problem solving. As Guilford reports, researchers agree, to a large extent, as to what are the major phases of this process. These phases are as follows: First, there is an awareness that a problem exists, and a motivation to reach a solution, with all the observations and analyses that are involved in this initial step; after, the situation is defined, and its various elements are conceptually organized; possibilities are then considered and evaluated, and finally a solution is chosen and checked.

This sequential model of problem solving resembles closely the vocational sequence of exploration - cristallization - specification - implementation. Incidentally, it is the rapprochement of the two sequences which has been at the origin of the idea of analyzing vocational developmental tasks in terms of the cognitive processes which are likely to be involved in their realization. Activating vocational development, according to this principle, consists in helping the individual to process cognitively his experience and informations, in relation to the vocational task that he is facing. This supposes, on the part of the counselor, a good understanding of the various thinking abilities, as well as a good mastery of the techniques and strategies

which are available for stimulating their exercice.

DEVELOPMENT IMPLIES A LOGICAL AND PSYCHOLOGICAL INTEGRATION OF EXPERIENCES

Educators acknowledge the fact that in order for learning to occur, the information must be presented sequentially, the simpler concepts being introduced before the more complex ones. The same requirement prevails with regard to the work of the counselor when he plans a series of group meetings with students whom he wants to help in their vocational developmental tasks. He must foresee the logical sequence of the themes and activities that he is going to propose to the participants, so that cumulative outcomes emerge from these experiences.

But an important factor in the individual's development might be his capacity to discard his usual way of interpreting reality, in order to build other schemes which would be more adapted to his experiences and to his personal observations. In other words, it might be his capacity to let down his stereotypes and preconceptions and to allow himself to be impressed by reality as it is really perceived and experienced. Psychological integration probably consists in relationg actual events, as they are experienced, to all the other past experiences in such a way that what is being experienced becomes integrated to the individual's history, and can contribute to his adjustment repertory.

The principle of integration, it seems to us, is fundamental in the sense that any learning supposes that the new is made familiar, so to speak; if this familiarization is the result of an interaction between the experiential situation and the individual's symbolizing processes, then psychological integration will be achieved, provided that the experience which has been en-

gaged in had, at the beginning, a potential meaning for the individual, that is, that the individual was positively disposed towards the experience. If this condition is met, there are good chances that an explicit meaning will be the ultimate outcome of the experience.

These principles, along with the functional analysis of the vocational developmental tasks, and the result of studies indicating that cognitive processes can be trained, led to the elaboration of a program of activities intended to facilitate vocational development through the use of a number of strategies. These strategies, for the most part, have been elaborated in the field of psychotherapy and cognitive psychology. Two kinds of strategies are used: There are the ones called experiential modes, which propose contents

> related to perception, imagery, emotion and behavior; the others are called cognitive procedures, and they are strategies which stimulate the exercise of the cognitive abilities by means of which the individual processes the data of the experiential situation. In this program, various themes and learning situations are presented in relation to the diverse vocational developmental tasks.
>
> I will close this communication by giving an example of an activity which is suggested in relation to the first subtask of exploration. This subtask is formulated as follows: Discovering that there exist, within the immediate surroundings and in society in general, problems which need to be solved and tasks which must be accomplished. With respect to this subtask, the theme which is proposed to the participants is that some

problems are so complex that their solution requires the participation of various workers. The learning situation which is entitled "Problems and occupations" is the following one: Referring to winter, the counselor invites the participants to list the problems, difficulties and inconvenients which are brought by this season. The production is then pursued by inviting the students to imagine all the occupations which would be modified or would disappear if winter no longer excited, and how this situation would change our way of life.

The counselor then brings the students to identify the possible causes of air and water pollution, and asks the participants to elaborate plans of action leading to the elimination of such problems, and occupations likely to help in this enterprise.

The group is divided into subgroups, and the team whose plan has been considered the best becomes the hiring committee. The other participants are invited to meet the members of the committee and to explain how the occupations they have proposed could contribute to implementing the plan which has been chosen.

By using the experiential modes called role playing and "esprit martien" (that is, making the familiar unusual), and the cognitive procedures called divergence, this activity aims at three objectives: A first objective is to provide an opportunity to realize that occupations exist to solve problems, and that choosing an occupation is choosing the kind of problems that one is interested in working on; a second objective is to stimulate the exercice of the intellectual abilities called fluidity, sensitivity to problems and elaboration; a third objective is to stimulate attitudes of curiosity and risk-taking.

I do not have the time to explain how this approach can be adapted to other kinds of tasks with regard for example to the individual's socialization process or to his personal growth. But we think that such an adaptation is possible. Research could be pursued in relation to this question. But we have launched a program of fundamental and applied research in order to test the approach as it is applied to vocational development. The clinical evidence that we have is encouraging, and so appear the first empirical results that we will soon start analyzing. These results will be published.